

AMENDMENTS TO THE CLAIMS

1-23. (Canceled).

24. (Currently Amended) An optical device comprising:

a laser comprising:

a reflecting mirror;

an output face comprising a reflection coefficient, the reflecting mirror and the

output face forming a cavity there between; and

a gain medium optically coupled between the reflecting mirror and the output face

within the cavity such that the cavity has a gain with a maximum at a

wavelength  $\lambda_{\max}$ , ~~when~~ wherein the laser is operating below a lasing

threshold at  $\lambda_{\max}$ ; and

an optical waveguide coupled to the cavity, the optical waveguide including an optical reflector defining a reflection peak coefficient at a wavelength  $\lambda$  that is less than the wavelength  $\lambda_{\max}$  by at least 10 nanometers at ambient temperature.

25. (Previously Presented) The optical device of claim 24, wherein the wavelength  $\lambda$  is less than the wavelength  $\lambda_{\max}$  by  $15 \text{ nm} \pm 5 \text{ nm}$ .

26. (Previously Presented) The optical device of claim 24, wherein the wavelength  $\lambda$  is less than the wavelength  $\lambda_{\max}$  by 13 nm when an operating temperature is equal to 25°C.

AVAN/000256

27. (Previously Presented) The optical device of claim 25, wherein the wavelength  $\lambda$  is less than the wavelength  $\lambda_{\max}$  by 13 nm when an operating temperature is equal to 25°C.
28. (Previously Presented) The optical device of claim 24, wherein the optical reflector is a grating with a reflection coefficient that is more than 10 times greater than the reflection coefficient of the output face.
29. (Previously Presented) The optical device of claim 28, wherein the wavelength  $\lambda$  is less than the wavelength  $\lambda_{\max}$  by 13 nm when an operating temperature is equal to 25°C.
30. (Previously Presented) The optical device of claim 24, wherein the output face has a reflection coefficient of about 0.1%.
31. (Previously Presented) The optical device of claim 30, wherein the optical reflector is a grating with a reflection coefficient of less than about 5%.
32. (Previously Presented) The optical device of claim 31, wherein the grating has a reflection coefficient of about 1%.
33. (Previously Presented) The optical device of claim 24, wherein the optical waveguide is an optical fiber.
34. (Previously Presented) The optical device of claim 24, wherein the laser is a quantum well laser.

AVAN/000256

35. (Previously Presented) The optical device of claim 24, wherein the laser is a laser diode including an epitaxied quantum well structure.

36. (Previously Presented) The optical device of claim 24, wherein the laser comprises an InGaAs semiconducting medium.

37. (Previously Presented) The optical device of claim 24, wherein the optical waveguide is optically coupled to the cavity by a first collimating lens and a focusing lens that focuses light toward the optical waveguide.

38. (Previously Presented) The optical device of claim 24, wherein the optical waveguide is an optical fiber and the optical reflector is a fiber Bragg grating.

39. (Previously Presented) The optical device of claim 38, wherein the wavelength  $\lambda$  is less than the wavelength  $\lambda_{\max}$  by 13 nm when an operating temperature is equal to 25°C.